

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Amendments to Part 4 of the Commission's Rules)	PS Docket No. 15-80
Concerning Disruptions to Communications)	
)	
New Part 4 of the Commission's Rules Concerning)	ET Docket No. 04-35
Disruptions to Communications)	
)	
The Proposed Extension of Part 4 of the)	PS Docket No. 11-82
Commission's Rules Regarding Outage Reporting)	
to Interconnected Voice Over Internet Protocol)	
Service Providers and Broadband Internet)	
Service Providers)	

COMMENTS OF CENTURYLINK

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COMMENTS OF CENTURYLINK

CenturyLink¹ files these comments in response to the Further Notice of Proposed Rulemaking (“FNPRM”) issued in the above-referenced dockets.² The FNPRM represents the Federal Communications Commission’s (“FCC” or “Commission”) attempt to address more comprehensively the growing transition from legacy network facilities to IP-based networks in its Part 4 outage reporting rules. The FNPRM proposes to extend Part 4 outage reporting requirements to broadband Internet access services (“BIAS”) and dedicated services, for both “hard-down” outages and conditions resulting in network performance degradation. The FNPRM revisits the Voice over Internet Protocol (“VoIP”) outage reporting rules established in

¹ These comments are filed by and on behalf of CenturyLink, Inc. and its subsidiaries.

² *Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, New Part 4 of the Commission’s Rules Concerning Disruptions to Communications, The Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 15-80, ET Docket No. 04-35, PS Docket No. 11-82, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, FCC 16-63 (rel. May 26, 2016) (“FNPRM”).

2012³ to propose expanding the current two-phase VoIP outage reporting process to conform to the three-phase process used for other services. Additionally for VoIP, the FNPRM proposes to establish network performance degradation conditions that would be reportable in addition to “hard-down” events. The FNPRM proposes to mandate reporting for cyber incidents and call failures in the wireline access network. The FNPRM intends for all of its proposals to be accomplished in cost-effective manners.⁴ The Commission states that these proposals “aim to update the [P]art 4 rules to ensure reliability of broadband networks used to deploy critical communications services, used both for emergency and non-emergency purposes.”⁵

I. INTRODUCTION AND SUMMARY

CenturyLink appreciates the Commission’s desire to update its outage reporting rules to reflect advancements in technology for the benefit of public safety. However, many of the proposed rules are overly broad and not sufficiently targeted to meet the objectives the Commission intends or is authorized to pursue. In these comments, CenturyLink urges the Commission to focus on a subset of proposed rule changes most likely to benefit public safety. As with the recent Part 4 outage reporting rulemaking issued last summer,⁶ CenturyLink is supportive of rule changes when there is a demonstrated need for the change and a tangible

³ *The Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, 27 FCC Rcd 2650 (2012) (“2012 Part 4 VoIP Order”).

⁴ FNPRM, ¶ 94.

⁵ FNPRM, ¶ 93.

⁶ *Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications, New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, Second Report and Order and Order on Reconsideration, 30 FCC Rcd 3206 (2015) (“2015 Part 4 NPRM”).

public safety benefit that is sure to result from the change.⁷ CenturyLink supports those proposals in the FNPRM that meet this standard, including broadband reporting for outage events that affect 911 special facilities.

However, many proposals in the FNPRM fail to meet this standard and for that reason CenturyLink cannot support them without assurance there will be public safety benefits that justify the burdens these new rules would impose. The FNPRM's more troubling proposals include the sweeping definition of dedicated services, the expanded scope of reporting that would encompass outages on other providers' networks, the new but unnecessary reach into cyber incident reporting obligations, the failure to recognize the complexities of reporting on performance degradation for interconnected VoIP services, and the puzzling focus on call blocking in the wireline local access network under circumstances when no calls are actually blocked. As described more fully below, CenturyLink recommends narrowing these proposals to stay true to the Commission's public safety charge and to ensure that the Commission obtains useful data without imposing undue burdens on reporting carriers.

II. THE COMMISSION LACKS THE FACTUAL AND LEGAL GROUNDS TO EXTEND OUTAGE REPORTING AS BROADLY AS PROPOSED IN THE FNPRM.

A. The FNPRM Fails to Show that New Outage Reporting Rules Are Needed.

To justify expanding its outage reporting rules, the Commission has previously cited the benefits that outage reporting data provides for the development of industry best practices designed to improve network reliability.⁸ As CenturyLink previously observed, BIAS providers

⁷ CenturyLink Part 4 NPRM Comments, filed in PS Docket No. 15-80, at 2 (July 15, 2015).

⁸ See, e.g., *The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, 27 FCC Rcd 2650, 2657-59 ¶¶ 14-17, 2661-62 ¶¶ 23-28 (2012) ("2012 FCC Part 4 Order").

participate and share information with a variety of federal committees, councils and workgroups within the Executive Office, the Department of Homeland Security, the Department of Defense and the Commission.⁹ In addition, CenturyLink was an active member of the FCC's Communications, Security, Reliability and Interoperability Council (CSRIC) VI Working Group 7, which reviewed legacy CSRIC best practices to identify where additional practices were necessary due to changes in technology, practices, or observed reliability trends. This Working Group successfully modernized 476 legacy best practices.¹⁰ These engagements have led to the development of best practices for broadband providers to address network vulnerabilities, and shows there are means less intrusive than outage reporting to achieve this goal.¹¹

⁹ See Comments of CenturyLink, filed in PS Docket No. 11-82, at 2 (Aug. 8, 2011).

¹⁰ The Working Group's recommendations and associated reports were approved by the CSRIC council and can be found at <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-0>

¹¹ The Alliance for Telecommunications Industry Solutions' (ATIS') Network Reliability Steering Committee (NRSC) is home to a key set of industry advisors on the health of the nation's communications networks. NRSC provides timely consensus-based technical and operational expert guidance and best practices to all segments of the public communications industry. Employing a proactive approach, it collaborates and holds quarterly public meetings with the FCC and provides information to help minimize the number of agency rule-makings and mandates.

The NRSC strives to improve network reliability by providing timely consensus-based technical and operational expert guidance to all segments of the public communications industry. As a trusted expert, the NRSC addresses network reliability improvement opportunities in an open, noncompetitive environment. The NRSC advises the communications industry through developing and issuing standards, technical requirements, technical reports, bulletins, Best Practices, and annual reports.

The NRSC accomplishes this through:

- identifying potential network reliability issues through an opportunity evaluation process,
- establishing subcommittees that address network reliability issues, conducting special studies that may lead to industry recommendations and/or the development of Best Practices,
- developing industry feedback, both formal and informal, to the FCC on network reliability,

In addition, the broadband networks at issue in this proceeding are meticulously designed to be highly reliable and can be designed to have increased reliability through customer purchased options (such as diversity) as well as quality of service variations based upon end user application of service, particularly for dedicated services. They are less susceptible to outages than other networks subject to outage reporting. Given how robustly these networks are designed and the considerable competitive pressures providers face to deliver high quality, reliable service to their customers, outage reporting is simply not needed to drive enhanced reliability.

B. Commission Jurisdiction over BIAS Remains Unsettled.

In addition to the questionable factual basis the Commission has to impose a new outage reporting regime on broadband services, the Commission's legal authority to proceed as broadly as it proposes is unclear. The Commission asserts a myriad of potential jurisdictional theories, including its oversight role for 911 including the NG-911 transition, Title II via the *Open Internet Order*,¹² Title III with respect to wireless providers, Section 706, and universal service

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- providing industry feedback to the FCC on Network Outage Reporting System (NORS) and Disaster Information Reporting System (DIRS), and providing an opportunity for the public to be informed on network outages and ongoing efforts to resolve network reliability concerns.

http://www.atis.org/01_committ_forums/NRSC/mission.asp (visited August 26, 2016).

In addition, CenturyLink meets weekly with fellow broadband providers as a member of the Communications Information Sharing and Analysis Center. During these calls, response issues associated with physical and cyber events are addressed. This forum also addresses new and evolving issues to enhance existing practices to better protect our respective networks.

¹² *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, GN Docket No. 14-28, 30 FCC Rcd 5601 (2015), *aff'd sub nom.*, *United States Telecom Ass'n v. FCC*, 2016 U.S. App. LEXIS 10716 (D.C. Cir., June 14, 2016), *petitions for rehearing/petitions for rehearing en banc pending* (No. 15-1063, filed July 29, 2016).

mandates under Section 254.¹³ The Commission’s most firm jurisdictional basis for the proposed rules is with respect to its authority over 911 services.¹⁴ Indeed, there are references throughout the FNPRM regarding how broadband networks and services are becoming vital to 911 and NG-911 emergency communications, and “thus, are central to the nation’s emergency preparedness, management of crises, and essential public safety-related communications.”¹⁵ “As NG[-]911 services are increasingly provisioned through broadband network elements, disruptions to broadband could impact the provision and reliability of local 911 voice and other shared services essential to emergency response.”¹⁶ Accordingly, given existing statutory authority, broadband outage reporting rules related to 911 and NG-911 functionality are likely within the Commission’s scope, and as such should remain the focus of any rules that may be adopted in this proceeding.

The FNPRM proposes rules beyond the realm of 911, and advances other sources of jurisdiction to justify reporting obligations. From the Communications Act of 1934, as amended, the FNPRM cites Title II and Title III for authority. Although BIAS is currently classified as a Title II service, the FNPRM assumes *arguendo* that this classification will withstand continued

¹³ FNPRM, ¶¶ 202, 206 and 209 respectively.

¹⁴ FNPRM, n. 455; *see also, e.g.*, 2012 Part 4 VoIP Order; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Report and Order, 19 FCC Rcd 16830 at 16837-38, 16848-49, 16855, ¶¶ 12, 32, 45, nn. 13-16, 102, 138 (2004) (“2004 Part 4 Order”); *911 Reliability Order, Improving 911 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75, 11-60, Report and Order, 28 FCC Rcd 17476 (2013); *Amendment of Part 64 of the Commission’s Rules to Provide for a New Priority System for the Restoration of Common Carrier Provided Intercity Private Line Service*, Final Order, 81 FCC 2d 441, ¶ 7 (1980).

¹⁵ *See, e.g.*, FNPRM, ¶¶ 93, 96 and n. 289, ¶¶ 99-101.

¹⁶ FNPRM, ¶ 195.

judicial scrutiny.¹⁷ Title III addresses wireless providers, but does not buttress the Commission’s jurisdiction over wireline providers like CenturyLink.

In addition to Titles II and III, the FNPRM cites other statutory provisions including Sections 706 and 254 as authority for its proposals. While the Commission has previously attempted to construe Section 706 as a source of jurisdiction with varying degrees of success,¹⁸ the contexts for those prior assertions were completely different than the FNPRM. Section 706 directs the Commission to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,” and if deployment is lagging, authorizes the Commission “to take immediate action to accelerate deployment.”¹⁹ Broadband deployment has flourished in large part because it has been lightly regulated.²⁰ The record is bereft of any evidence that new broadband regulation in the form of outage reporting requirements would encourage increased broadband deployment. Absent such evidence, Section 706 cannot authorize the proposed rules.

Finally, the Commission cites Section 254’s universal service funding mandates and principles as a basis for broadband outage reporting, exclusively referencing the broadband support being distributed through the USF’s Connect America Fund (“CAF”) program.²¹ While it is understandable for the Commission to want “a certain level of assurance [o]n behalf of the

¹⁷ See note 12, *supra*. If the court determines that BIAS is not properly considered as a telecommunications service, then Sections 201, 202, 214, and 218 as well as other Title II provisions would be inapplicable.

¹⁸ *State of Tennessee; State of North Carolina v. FCC*, Case Nos. 15-3291/3555, Opinion, 2016 U.S. App. LEXIS 14681 (6th Cir. 2016).

¹⁹ FNPRM, ¶ 206.

²⁰ See, e.g., Report and Order on Remand, Declaratory Ruling, and Order, FCC 15-24 ¶ 5 (noting the “light-touch” regulatory framework that has facilitated the tremendous investment and innovation on the Internet).

²¹ FNPRM, ¶ 210.

users who fund [CAF],” by limiting the FNPRM discussion to CAF, the FNPRM seems to tacitly concede (and CenturyLink agrees) that Section 254 cannot be used to confer jurisdiction for non-CAF areas. Thus, the broadest jurisdiction Section 254 could confer would be in CAF areas, which are limited, and more sizeable non-CAF areas would be beyond Section 254’s reach.²²

III. IF THE COMMISSION PROCEEDS DESPITE THESE INFIRMITIES, ANY NEW RULES SHOULD BE NARROWLY TAILORED TO ADVANCE PUBLIC SAFETY AND PROVIDE TANGIBLE BENEFITS TO JUSTIFY THEIR COSTS.

Because of the serious questions discussed above surrounding whether these rules are necessary and warranted, it is premature to move forward with the comprehensive broadband outage reporting scheme proposed in the FNPRM. However, if the Commission concludes to move forward despite these concerns, CenturyLink urges the Commission to focus on the 911 network to adopt narrowly tailored rules designed to promote public safety. This approach helps fulfill the Commission’s obligation to protect and advance public safety and aligns with the Commission’s authority to act. The Commission should defer enacting additional rules until it has had the opportunity to analyze the effectiveness of the information collection related to 911 to see what additional steps, if any, may be necessary to protect public safety.

A. The Proposed Definitions of BIAS and Dedicated Services Should Be Narrowed and Outage Reporting Tied to Public Safety Impacts.

The FNPRM proposes definitions for BIAS and so-called “dedicated services.” The definition of BIAS is consistent with that used in other contexts and is reasonable for application to Part 4 considering the mass-market nature of the services. However, the proposed definition of “dedicated services” is inexplicably inconsistent with other Part 4 metrics. Notwithstanding how these services are defined, any outage reporting requirements related to them should be limited to instances when an outage affects a 911 special facility under Section 4.5(e)(1).

²² FNPRM, ¶¶ 210-211.

Dedicated services are analogous to major transport services which are already addressed in Part 4. For outage reporting purposes the Commission proposes to define dedicated services as:

Services that transport data between two or more designated points, e.g., between an end user's premises and a point-of-presence, between the central office of a local exchange carrier (LEC) and a point-of-presence, or between two end user premises, at a rate of at least 1.5 Mbps in both directions (upstream/downstream) with prescribed performance requirements that include bandwidth, latency, or error-rate guarantees or other parameters that define delivery under a Tariff or in a service-level agreement.²³

This sweeping definition encompasses a myriad of communications that occur at an extremely low speed, despite the FNPRM's acknowledgement that these services are used to "power the fullest range of large data pipe (high capacity) services."²⁴ Moreover, in the Report and Order accompanying the FNPRM, the Commission saw fit to increase the major transport outage reporting threshold from a DS3-based metric to an OC3-based metric to "reflect prevalent technological changes in networks."²⁵ Therein lies the inconsistency. If the Commission decides to move forward despite the lack of public safety relevance and given the state of technology, the 1.5 Mbps metric should be substantially increased to better align with the newly adopted OC3 standard. Otherwise, the Commission stands to burden carriers with extensive and costly monitoring requirements on low capacity circuits as there are many more 1.5 Mbps circuits, when, in virtually the same context, the Commission has exempted such circuits from those requirements.²⁶

²³ FNPRM, ¶ 115.

²⁴ FNPRM, ¶ 114.

²⁵ FNPRM, ¶ 17.

²⁶ Defining dedicated services in this manner would encompass all circuits at a T1/DS1 level or above, which is tens or even hundreds of thousands of circuits that would need to be tracked.

Outages concerning BIAS and dedicated services, as ultimately defined, should be reported to the Commission only to the extent they affect 911 special facilities as defined in Section 4.5(e)(1) of the Commission’s rules. The FNPRM observed that “[s]ome NG911 systems use BIAS to support critical functions like transmission of location information, making it of particular interest to the Commission as NG911 is rolled out.”²⁷ CenturyLink uses dedicated services to deliver ALI data to PSAPs. In the case of NG911 where the call traverses an Emergency Services IP Network (ESInet), there are a multitude of providers that run systems and networks that the 911 call touches. These databases and networks are independently owned and operated by the service providers and are often firewalled and secured in a manner that may make end-to-end visibility challenging. Use of BIAS and dedicated services will only increase as NG-911 continues to be rolled out throughout the country. In light of the critical and growing public safety role these services provide, it is reasonable to prioritize extending outage reporting for these services to 911-impacting outages.

B. Any Outage Reporting Requirements Must Be Limited to Outages on the Provider’s Own Network.

The FNPRM seeks comment on whether BIAS providers “could be used as a central reporting point for all broadband network outages . . . [such that] only BIAS providers (as opposed to other entities providing networks or services) would be required to report.”²⁸ This proposal would be a significant and troubling extension beyond the scope of current Part 4 outage reporting rules that would be extremely difficult, if not impossible, to implement. Under the current Part 4 rules, providers are generally required to report only those outages

²⁷ FNPRM, ¶ 111.

²⁸ FNPRM, ¶ 112.

“experienced on any facilities that they own, operate, lease, or otherwise utilize . . .”²⁹ Because the Internet is a network of networks, it is not possible for any single BIAS to assure delivery of an end user’s communication to any destination of the end user’s choosing on the Internet. CenturyLink believes that the responsibility of a BIAS provider must be limited to transporting an end user’s communications to one or more other broadband Internet service providers as necessary for the communications to reach the end user’s desired destination. Once an end user’s BIAS provider has delivered the end user’s communication to another broadband Internet service provider, the end user’s BIAS provider no longer has control over, visibility to, or the ability to affect the end user’s communication. Outage reporting obligations must be tied to the visibility and control a provider can realistically exercise over the communication, and such visibility and control only exist on the provider’s own network. It is not feasible to require a BIAS provider to be able to pinpoint, after it has handed off the communication to another broadband provider without any trouble, if/when/where in an end-to-end transmission to the Internet a communication may have been lost on another provider’s network. Providers cannot be reasonably expected to report outages they cannot see and cannot detect. Thus, the FNPRM’s proposal should be rejected in favor of the current Part 4 standard.

C. The Proposed Reporting Requirements Concerning Critical Network Elements Are Unnecessary.

The Commission proposes to modify the Network Outage Reporting System (NORS) interface, through the use of open fields or drop down menus, to support information regarding outages and disruptions that are associated with unintended changes to software or firmware or unintended modifications to a database.³⁰ CenturyLink currently includes the relevant

²⁹ See, e.g., 47 C.F.R. § 4.9(a).

³⁰ FNPRM, ¶ 124.

information regarding the cause of an outage in the NORS cause code field and provides additional pertinent information in the “Description of Incident” and “Description of the Cause(s) of the Outage” text fields. Given that CenturyLink already provides this information, CenturyLink opposes the proposed modifications to NORS as duplicative and unnecessary.

The FNPRM also seeks comment regarding whether providers should include information in their reports concerning: (1) the failure of facilities that might be considered critical network elements; and (2) unintended changes to software or firmware or unintended modifications to a database to the extent relevant to a given outage or service disruption that is otherwise reportable.³¹ The Commission proposes that network elements would be deemed “critical” if these elements’ failure would result in the loss of any user functionality that a covered broadband provider’s service provides to its end users.³² The Commission asks whether it would be useful to establish pre-defined elements in the reporting metrics that would provide the Commission with more consistent failure information about unintended changes to software and firmware or unintended modifications to a database that would not otherwise be reported to the Commission.³³

CenturyLink takes cybersecurity very seriously and uses a number of tools and employs various techniques to defend its customers, network, and operations against cyber attacks. CenturyLink does not support the proposed reporting obligations associated with unintended software/firmware changes because these types of events are already being reported under the existing Part 4 rules. As noted above, CenturyLink currently provides information about the cause of the outage in the cause code field and further detail is provided in the “Description of

³¹ FNPRM, ¶ 122.

³² FNRMP, ¶ 123.

³³ FNPRM, ¶ 124.

Incident” and “Description of the Cause(s) of the Outage” text fields. In addition, malicious cyber events are captured in the malicious activity drop down by indicating “Yes – Cyber event” on NORS reports. Moreover, substantial industry collaboration is ongoing and voluntary initiatives are underway to share this type of information. Given this climate, which has worked well, additional Commission regulation is simply unwarranted.³⁴

D. The Proposed “Hard Down” Threshold Should Be Streamlined.

For hard-down outages, the FNPRM proposes a throughput-based metric tied to the 900,000 user-minute threshold established in 2004 for voice outages. Specifically, the FCC proposes that outages be reportable when they result in 1 Gbps of throughput affected in which the event exceeds 22,500 Gbps user minutes and lasts 30 minutes or more. To determine whether an outage event is reportable using this threshold, providers would be required to multiply the size of the facility measured in Gbps, by the duration of the event measured in minutes, in order to generate a Gbps user minute number.³⁵ CenturyLink maintains that only broadband outages that affect a 911 special facility should be reported. However, if the Commission concludes to move forward with more extensive reporting, CenturyLink believes a simpler threshold, based instead on customer impact and outage duration, will be easier to implement, be more sustainable over time, and provide the Commission more useful information than the FNPRM’s proposed throughput metric.

Instead of the throughput-based metric proposed in the FNPRM, CenturyLink proposes to define “hard down” broadband outage events by the duration of the outage and the number of

³⁴ See generally, Remarks of FCC Chairman Thomas Wheeler to the American Enterprise Institute on June 12, 2014 (describing new regulatory paradigm where the Commission relies on industry and the market first while preserving other more traditional regulatory options if that approach is unsuccessful).

³⁵ FNPRM, ¶ 130.

customers affected. As under the current outage reporting rules for other services, an outage would need to have a minimum 30-minute duration and impact at least 900,000 user (customer) minutes to be reportable. Thus, a 30-minute outage affecting at least 30,000 customers would be reportable. In addition to establishing a minimum outage duration, the Commission should also establish a minimum BIAS customer impact for outages to be reportable. CenturyLink proposes using a 5,000 BIAS customer threshold for reportability, such that outages impacting fewer than 5,000 customers would not be reportable.

Reporting on customer impact and outage duration has several advantages over the FNPRM's proposal. With seemingly insatiable consumer demand for increased broadband speeds and performance, a throughput-based metric risks quickly becoming obsolete or outdated. The metric may need to be revised frequently, which could present implementation challenges and increase costs as providers need to update their internal monitoring and tracking systems to keep pace with a moving regulatory target. Using more stable metrics that are not subject to rapid growth and technological change will produce a threshold that is more sustainable over time, and therefore will be more effective and efficient. A throughput-based metric can also be misleading because, while it tracks the size of the pipe that is down, it does not track how much capacity is actually being used on the pipe. Thus, such an approach may fail to capture the true customer impact of an event. By focusing squarely on customers, CenturyLink's proposal provides a better snapshot of the scope and scale of an event, thus affording the Commission better situational awareness of large scale issues where further steps, if necessary, can be taken to promote the public interest. Accordingly, any "hard down" broadband reporting threshold should be based only on customer impact and outage duration to achieve greater efficiency,

accuracy and sustainability than could be realized under the FNPRM's proposed throughput-based metric.

The FNPRM also questions whether the same “hard down” thresholds should be used for BIAS and dedicated services.³⁶ As discussed in Section III.A, CenturyLink seeks to revise the proposed definition of dedicated services and believes the appropriate outage reporting threshold depends upon how those services are ultimately defined. CenturyLink advocates having outage reporting triggered by customers and circuits impacted along with outage duration, with specified minimums in each of these areas that would yield a reporting obligation. This would ensure that only outages of sufficient scale are subject to reporting. CenturyLink believes an industry working group could be tasked with determining the appropriate levels for these metrics given the unique nature of dedicated services and the enterprise customers that use them.

E. The Proposed Reporting Standard for Broadband Performance Degradation Should Be Simplified.

In addition to discussing the appropriate definition of “hard down” outages, the FNPRM also seeks comment on reporting for significant degradations in communications. The FCC proposes to use packet loss, latency and/or throughput to measure degradation in network performance and proposes a variety of measures aimed to define what would constitute a loss of “generally-useful availability and connectivity” that should be reportable as an outage.³⁷ CenturyLink urges the Commission to focus on hard down events because the conditions that may trigger a loss of “generally useful availability and connectivity” could vary based on the end user application.³⁸ However, if the Commission moves forward with this proposal on

³⁶ FNPRM, ¶ 131.

³⁷ FNPRM, ¶¶ 137-138.

³⁸ The level of performance that is acceptable to adequately send and receive email may be vastly different than what is acceptable for more real time communications, such as video streaming.

performance degradation, CenturyLink believes a uniform, objective standard is necessary to facilitate providers' ability to track and report this information. CenturyLink proposes to define reportable broadband performance degradation as at least 30% packet loss lasting continuously on the provider's network for 30 minutes or more. This is a level where most, if not all, end user applications would experience serious performance issues constituting a loss of "generally useful availability and connectivity." CenturyLink believes this threshold would be suitable for both BIAS and dedicated services, should the Commission conclude to move forward with performance degradation reporting.

F. Broadband Network Endpoints Must Be Reasonably Defined.

The FNPRM proposes to define the applicable endpoints for measuring and reporting performance degradation by BIAS providers as from the customer premises to the destination host, and, for dedicated services, from the closest network aggregation point in the access network (*e.g.*, DSLAM serving DSL subscribers) to the closest network facility routing communications traffic or exchanging traffic with other networks (*e.g.*, POP or gateway).³⁹ CenturyLink is concerned about having the customer premises as one of the endpoints in the BIAS environment. This is because an end user's broadband access line and the home network behind it are under the physical control of the end user, not the BIAS provider. In order to reasonably task the BIAS provider with this outage reporting obligation, it must have the ability to monitor and track network performance to identify reportable outage events. BIAS providers do not currently have this capability and end user customers would likely oppose this type of BIAS provider access. To accurately perform the proposed reporting, both endpoints must always be within the exclusive control of the BIAS provider. Moreover, to arrive at a reasonable

³⁹ FNPRM, ¶ 143.

reporting scheme, both the network endpoints and the reporting thresholds must be considered together and each set at appropriate levels. If the network endpoints were to be defined by the Commission as including customer premises, CenturyLink would need to increase its proposed customer impact thresholds discussed in Section III.D to compensate for the increased reporting volume the endpoints may trigger. Instead of using the customer premises as an endpoint, the access aggregation device, *e.g.*, the DSLAM or OLT, should be used.⁴⁰

Similarly, in the case of where a “destination host” is on another BIAS provider’s network,⁴¹ the original BIAS provider will not have visibility to or control over the traffic once handoff occurs to another BIAS provider. Given this lack of visibility and control, it would not be reasonable to define endpoints in this manner for this circumstance. To remedy this issue, it is reasonable to define the second endpoint as either the “destination host” or, in the event the communication is handed off to another provider, the point where that handoff occurs.

With respect to the endpoints for dedicated services, CenturyLink questions the FNPRM’s proposed definition. CenturyLink notes that DSLAMs are not generally present in dedicated services so we would instead use the closest hardened network aggregation point in the access network as the first endpoint. The second endpoint must also involve a network element that the provider owns, controls and has visibility to for monitoring.

The FNPRM proposes these endpoint definitions for the purpose of measuring performance degradation in BIAS and dedicated services. To clarify, CenturyLink believes these endpoint definitions should also apply for the purpose of measuring “hard down” outages. It is logical to define endpoints for these related purposes in a consistent manner, and would create

⁴⁰ The FNPRM’s first proposed endpoint for dedicated services (the closest network aggregation point in the access network (*e.g.*, DSLAM serving DSL subscribers)) is appropriate to be the first endpoint for BIAS.

⁴¹ FNPRM, ¶ 144.

undue burdens to construe endpoints differently for “hard down” events versus instances of performance degradation.

G. CenturyLink Supports Sharing Outage Information with State and Federal Authorities So Long As Confidentiality Is Maintained.

The FNPRM seeks additional information on broadband and VoIP providers’ reporting and information sharing practices with state and federal agencies, and questions whether outage data should evolve from the presumptive confidential treatment it receives to become more transparent.⁴² CenturyLink often engages in informal information sharing with respect to these services with governmental authorities. CenturyLink understands and appreciates state and federal government interest in NORS data, but given the sensitivity of that data, appropriate confidentiality protections would need to be in place to allow access. Appropriate confidentiality protections would include, at a minimum, state and federal agencies certifying that they will keep the information in the reports confidential, and that they have confidentiality protections in place at least equivalent to those set forth in the Freedom of Information Act (“FOIA”).⁴³ These protections would ensure that providers submitting reports retain the same confidentiality protections as they have today when filing outage reports with the Commission. Only state and federal government officials should be able to access this information, not third parties, and any state or federal agency use of the data must be squarely within their traditional role of protecting public health and safety. States and federal agencies should be required to immediately disclose to providers any confidentiality breach or unauthorized release of NORS data.

As CenturyLink mentioned in its comments in last year’s Part 4 proceeding, for consistency and to avoid the complexity of having overlapping state and federal reporting

⁴² FNPRM, ¶¶ 145-147.

⁴³ 2015 Part 4 NPRM, 30 FCC Rcd at 3224 ¶ 51.

obligations, CenturyLink would agree to allow states to access NORS data so long as such access replaces any separate outage reporting under state law that is based on different criteria and timeframes.⁴⁴ While CenturyLink supports allowing states access to NORS reports so long as the confidentiality and consistency requirements described above are met, states should have to request such access. The purpose of this step is to help providers maintain awareness about what states are accessing NORS data, while also ensuring that the data provided is wanted and useful to the states that would receive it. CenturyLink also supports sharing NORS data with the National Coordinating Center for Communications (“NCC”) under the same conditions that such data would be shared with states.

With respect to the Commission’s suggestion that the presumptively confidential treatment that has been afforded outage reports since Part 4’s inception should perhaps evolve to reflect greater transparency,⁴⁵ CenturyLink wholly disagrees. The reasons these reports were granted confidential treatment in the first place is because of the sensitive information they contain and the need to safeguard proprietary network data from both security and competitive perspectives. In the intervening years since that time, the security and competitive environments have only grown more intense, making the need to protect confidential information more critical now than ever. Moreover, a primary reason the Part 4 process has worked so well to date is because providers are assured their data will remain confidential and not be publicly disclosed. The FNPRM reveals no basis to disrupt or modify this approach. Absent a compelling reason to justify change, especially to a process that has worked well for years and provided valuable information to the Commission for the benefit of public safety, the current confidentiality protections should remain in place.

⁴⁴ 2015 Part 4 NPRM, 30 FCC Rcd at 3224 ¶ 52.

⁴⁵ FNPRM, ¶ 145.

H. The Current VoIP Two-Stage Outage Reporting Process Should Replace the Three-Phase Process in Place for Other Services.

The FNPRM proposes to conform the current two-stage outage reporting process for interconnected VoIP service to the three-stage outage reporting process for other services.⁴⁶ Rather than replace the interconnected VoIP reporting scheme with that for other services, CenturyLink submits that the reporting process for other services should be aligned with the two-step process applicable to interconnected VoIP. When the Commission initially adopted the two-stage process for interconnected VoIP, part of their rationale was to allow providers “to work the outage problem as opposed to reporting on the outage.”⁴⁷ Moreover, in eliminating the filing requirement for the initial report, the Commission then found that this step “would reduce providers’ workloads considerably without harming the Commission’s ability to react in the short-term or facilitate the development and application of best practices in the long term.”⁴⁸ To preserve visibility to outages affecting 911 special facilities, the notification filing window was shortened to provide the Commission awareness to this critical type of event. All of these points support moving to a two-step process and affording providers some degree of regulatory relief in an environment of ever-increasing regulation.

The three-phase reporting process creates a significant amount of duplicative work without any considerable gain in knowledge. As the Commission has recognized, “the Notification alerts the Commission to possible widespread problems, while the Initial and Final Communications Outage Reports supplement the Notification and provide more detailed

⁴⁶ FNPRM, ¶ 165.

⁴⁷ 2012 Part 4 VoIP Order, ¶ 95.

⁴⁸ *Id.* at 2689 ¶ 97.

information on the outage.”⁴⁹ Thus, the Notification has a more critical function and significantly higher impact on public safety than do subsequent outage reports.⁵⁰ An increase in the type of reporting under the Commission’s proposed criteria may be offset by reducing the number of filings BIAS providers must make for each outage.

Even if the Commission disagrees with CenturyLink’s position and acts to apply the three-stage reporting process to interconnected VoIP, to the extent the Commission adopts new outage reporting requirements for BIAS and/or dedicated services, CenturyLink recommends that the Commission impose, at least initially, a two-step reporting process consistent with what was first applied to interconnected VoIP providers. The same rationale that applied to interconnected VoIP in 2012 continues to apply here. The broadband networks at issue are extremely complex and time is needed to diagnose problems accurately and restore service. And restoring service should be a provider’s top priority in an outage event, not regulatory reporting.

I. Measuring Losses of “Generally Useful Availability and Connectivity” in the VoIP Environment Is Extremely Complex.

The FNPRM proposes extending outage reporting requirements for interconnected VoIP carriers from only “hard down” outages to losses of “generally useful availability and connectivity” of communications based on the metrics of packet loss, latency and throughput.⁵¹ CenturyLink understands the Commission’s desire for this information, but is very concerned that interconnected VoIP providers lack visibility to these metrics and, as a result, cannot reasonably report on them. The FNPRM questions whether “interconnected VoIP’s unique

⁴⁹ *Alpheus Communications, LP*, File No. EB-09-SE-126, Notice of Apparent Liability for Forfeiture, 25 FCC Rcd 8993 ¶ 11 (2010).

⁵⁰ *Id.*

⁵¹ FNPRM, ¶ 166.

technology justifies a departure from a pure ‘hard down’ reporting metric.”⁵² CenturyLink’s response is a resounding yes. As the Commission is aware, interconnected VoIP is an application that runs over a broadband connection. Degradation that interconnected VoIP service may experience will almost exclusively occur from IP facilities, whether that is within the core IP backbone, at the edge routers or at DSL facilities that terminate to a customer end point. The loss of packet, latency and throughput is a measure of the IP facility, not the application provided by the interconnected VoIP provider. CenturyLink can measure failed calls driven by equipment failures. But because CenturyLink’s interconnected VoIP providers can receive their underlying broadband service from any provider, this can leave CenturyLink with no visibility to the edge or to the quality of service an end user receives on its calls.⁵³ Given these challenges, CenturyLink urges the Commission to retain the current rule and limit interconnected VoIP outage reporting to “hard down” events only.

J. The Commission Should Decline to Adopt Any Outage Reporting Requirements for Wireline Network Access Events.

The FNPRM again considers outage reporting for call failures in the wireline local access network. Specifically the FNPRM proposes to amend the outage reporting rules to consider a loop carrier system or remote switch to be “out” whenever a remote terminal or the group of channels connecting a remote switch to a host operates at full capacity (*i.e.*, is unable to process any additional calls) for 75% of the time during a period of at least 30 minutes. If the number of user-minutes exceeds 900,000 for the loop carrier systems and remote switches that are considered “out,” the outage would be reportable.⁵⁴

⁵² FNPRM, ¶ 167.

⁵³ This type of reporting may also potentially overlap other reporting scenarios in the FNPRM and be redundant given that VoIP can be carried over dedicated IP networks.

⁵⁴ FNPRM, ¶ 178.

In last year's Part 4 proceeding, CenturyLink provided comments opposing this extension of the outage reporting rules. CenturyLink incorporates its previous comments by reference and continues to oppose this rule change. The TDM-based public switched telephone network was not designed as a non-blocking network; this was not required of it. While it is quite troubling that neither the 2015 Part 4 NPRM nor the FNPRM include any basis to justify the need for such reporting, this is not the most objectionable aspect of the proposed rule. What is most objectionable is that the proposed rule would require reporting an outage event in circumstances when not even a single call has been blocked and 100% of calls are processed in order to complete as intended.⁵⁵ The proposal represents regulatory overkill. The Commission's efforts would be much better spent to reduce the number of unwanted robocalls that flood the wireline network, harass consumers, and can trigger the network congestion whose effects the FNPRM seeks to manage.

Even if the reporting threshold were modified to capture actual instances of sustained call blockages, the proposed rule should still be rejected. The network is engineered to appropriately size these connections to allow for busy traffic times and as a result, CenturyLink does not actively monitor loop carrier systems, rather relying on on-going engineering reviews to ensure that the facilities remain appropriately sized to meet the traffic volumes. To do more would be a costly and inefficient endeavor given the upcoming transition of the legacy network. Moreover, the Commission is currently receiving long distance call completion information through quarterly Form 480 submissions⁵⁶ and thus has significant access to industry trends and data in this arena making additional reporting seemingly unnecessary. CenturyLink urges the

⁵⁵ And even if calls were blocked, these blockages are not failures of the communications network and should not be treated as network outages that require reporting.

⁵⁶ *Rural Call Completion*, WC Docket No. 13-39, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 16154 (2013).

Commission to focus its efforts on areas where there is a demonstrated need for additional outage reporting and a tangible public safety benefit that is sure to result from the rule change.

While these network investments can be justified when they are reasonably tied to mitigating a tangible public safety risk or benefit public safety, here no such public safety risk or benefit has been identified. The current rule is already capturing the overwhelming majority, if not all, of these events and should be maintained.

IV. CONCLUSION

CenturyLink appreciates the Commission's efforts to update its outage reporting rules to keep pace with the public's use of new technologies. However, it is unclear whether there are adequate grounds to adopt many of the rules proposed in the FNPRM. Instead of the extensive new regulation the Commission proposes here, any new rules should be narrowly tailored to focus on the 911 network and additional rules should only be considered in the future if additional steps are necessary to protect public safety.

Respectfully submitted,

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